WHAT IS CLAIMED IS:

1. An electrode for a fuel cell comprising: a catalyst layer and a porous polymer, said catalyst layer containing a solid polymer electrolyte and catalyst particles.

2. The electrode according to claim 1, wherein said porous polymer is provided for the inside portion of porous or/and surface of said catalyst layer.

3. An electrode for a fuel cell comprising: a catalyst layer and a gas diffusion layer and a porous polymer;

wherein said catalyst layer contains a solid polymer electrolyte and catalyst particles, and said gas diffusion layer containing an electro-conductive porous substrate.

4. The electrode according to claim 3, wherein said porous polymer is provided for the inside portion of pores or/and surface of said catalyst layer or/and inside of the electro-conductive porous substrate.

5. The electrode according to claim 1 or 3, wherin said porous polymer has no ion-exchange function.

6. The electrode according to claim 1 or 3, wherein pores of said porous polymer form the three-dimensional network structure.

7. The electrode according to claim 1 or 3, wherein an average diameter of pores in said porous polymer is 1 μm or less.

8. The electrode according to claim 1 or 3, wherein an average diameter of pores in said porous polymer is 0.05 μm or less.

9. The electrode according to claim 1 or 3, wherein a porosity of said porous polymer is the range of 45% to 95%.

10. The electrode according to claim 1 and 3, wherein said porous polymer is fluorocarbon polymer.

11. A method of manufacturing porous polymer comprising the step of: separating a polymer (a) from the solution (c) in which the polymer (a) is dissolved in a solvent (b) by the phase inversion process.

12. A method of manufacturing porous polymer comprising the step of: extracting a solvent (b) from the solution (c), in which a polymer (a) is dissolved in the solvent (b), with the non solvent (d) which is insoluble in the polymer (a) and miscible with the solvent (b).

13. A method of manufacturing an electrode for a fuel cell comprising the steps of:

preparing an electrode (j) comprising a catalyst layer containing a solid polymer electrolyte and catalyst particles;

preparing a solution (c) in which a polymer (a) is dissolved in a solvent (b);

allowing said solution (c) to be contained in said electrode; and

separating said polymer (a) from said solution.

14. A method of manufacturing an electrode for a fuel cell comprising the steps of:

preparing an electrode (j) comprising a catalyst layer containing a solid polymer electrolyte and catalyst particles;

preparing a solution (c) in which a polymer (a) is dissolved in a solvent (b);

allowing said solution (c) to be contained in said electrode; and

extracting said solvent (b) from the said solution (c) with a non solvent (d) which is insoluble in said polymer (a) and miscible with the solvent.

15. The method according to claim 13 or 14, wherein the electrode (j) further comprises a gas diffusion layer containing the electro-conductive porous substrate.

16. The method according to claim 13 or 14, wherein said electrode (j) is being joined to the ion-exchange membrane.

17. A method of manufacturing an electrode for a fuel cell comprising the steps of:

preparing a gas diffusion layer containing an electro-conductive porous substrate;

preparing a catalyst layer (k) containing a solid polymer electrolyte and catalyst particles;

preparing a solution (c) in which a polymer (a) is dissolved in a solvent (b);

allowing said solution (c) to be contained in said gas diffusion layer;

separating said polymer (a) from said solution (c); and

joining said gas diffusion layer to said catalyst layer (k).

18. A method of manufacturing an electrode for a fuel cell comprising the steps of:

preparing a gas diffusion layer containing an electro-conductive porous substrate;

preparing a catalyst layer (k) containing a solid polymer electrolyte and catalyst particles;

preparing a solution (c) in which a polymer (a) is dissolved in a solvent (b);

allowing said solution (c) to be contained in said gas diffusion layer;

extracting said solvent (b) from said solution (c) with a non solvent (d) which is insoluble in said polymer (a) and miscible with the solvent (b); and

joining said gas diffusion layer to said catalyst layer (k).

19. The method according to claim 17 or 18, wherein said catalyst layer (k) is being joined to the ion-exchange membrane.

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20. The method according to claim 17 or 18, further comprising the step of: fluorinating said porous polymer.